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ABSTRACT

Uninformed of the power of play as an educational tool, many people view play as a waste of time and call for a return to teaching basic academic skills during the period of early childhood. This chapter demonstrates that play is a major vehicle for learning, focusing on the dynamics of sociodramatic interaction that are integral to understanding related aspects of development and education. The chapter begins with a consideration of the definition of play and proposes that young children's play is symbolic, meaningful, active, pleasurable, voluntary and intrinsically motivated, rule-governed, and episodic. The essay discusses major psychological theoretical positions regarding play, including Piagetian and Vygotskian theories, and cultural perspectives conceptualizing play as a categorization frame and considering the importance of play contexts. The transformational dynamics of play are considered through an examination of script theory, narrative structures, theory of mind, and complexity theory. The chapter continues with an examination of the relationship of play to social, imagination, cognitive, and literacy development. The chapter addresses the implications of play research for curriculum development for young children, including ways of encouraging play through modeling, planning with children, and playing with language; and using the power of play to strengthen worthwhile, meaningful learning and cooperation with others. Contains approximately 150 references. (KB)

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CHAPTER 2

A Review of Research on Play

DORIS PRONIN FROMBERG

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WHY WOULD we want children to play in early childhood classes? How would we provide worthwhile conditions? In exploring ways to answer these questions, the synthesis of research in this chapter focuses on the dynamics of sociodramatic interaction that are integral to understanding related aspects of development and education.

DEFINING PLAY

Play functions as both a verb and a noun. Rather than a category, property, or stage of behavior, play is a *relative* activity that manifests shifting functions in different settings. Perhaps because play is relative behavior, scholars have studied it from the differing perspectives of historians, philosophers, linguists, anthropologists, educators, and psychologists. Scholars and researchers have considered the child as solitary, playing with objects or imagination, as well as a social player with one or more peers or adults. They have considered the immediate contexts in which play occurs, the content, the interaction of context and content, the cultural environment, and the player's experience, and they have differentiated play from exploration, dividing social play into structured games-with-rules and sports, as contrasted with the evolving forms of sociodramatic play.

The focus of this chapter is on current theories of play, except where contrast may serve to highlight an issue. To begin, I propose a definition

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of play that might serve as a foil to parry with the various theoretical perspectives. Young children's play is

Symbolic, in that it represents reality with an "as if" or "what if" attitude
Meaningful, in that it connects or relates experiences
Active, in that children are doing things
Pleasurable, even when children are engaged seriously in activity
Voluntary and intrinsically motivated, whether the motive is curiosity, mastery, affiliation, or something else
Rule-governed, whether implicitly or explicitly expressed
Episodic, characterized by emerging and shifting goals that children develop spontaneously and flexibly.

Dewey (1933) suggested that play "emphasizes" activity rather than "outcomes" (p. 285). However, he cautioned that when there is no outcome play can "degenerate into fooling, and work into drudgery. . . . To be playful and serious at the same time is possible, and it defines the ideal mental condition" (p. 286). His work suggests the following continuum: fooling–play–work–drudgery. For example, work may come to feel like play in certain circumstances, such as the experiences of "functional autonomy" (Allport, 1958) and "flow" (Csikszentmihalyi, 1988), when the worker is "unaware of time passing [with work being] satisfying and focused enough in the present to transcend the moment" (Fromberg, 1997, p. 191).

The content of play is influenced by children's experiences (text) and also by the context in which they find themselves. Context may include the physical environment, time, other children or adults, and cultural sanctions and expectations. The contexts of two broad theoretical perspectives on play are discussed below.

THEORIZING ABOUT PLAY

The psychological and the cultural theoretical positions emphasize different ways of looking at the same intrinsically motivated activity.

Psychological Perspectives

Jean Piaget, a psychologist, epistemologist, and biologist, saw children as taking an active role in forming their play symbols. Building on the object

play of solitary children, he proposed that play can be "pure assimilation" but that it is the "predominance" of assimilation over accommodation that defines an activity as play (1962). In emphasizing assimilation, he saw play as a state of imbalance.

Present-Time Behavior with a Past or Future Orientation. Piaget (1962) suggested that children's play "distorts" reality to fit the child's current level of understanding and focuses on past experiences "to transform reality" (1966, pp. 111).

In contrast, Vygotsky (1978) suggested that children at play act "against immediate impulse" by subordinating themselves to rules. There is a paradox in Vygotsky's dialectic between pleasure in being "emancipated from situational constraints" while acting spontaneously, and subordinating oneself to the rules of play as the "path to maximal pleasure in play" (p. 99). In this way, children at play exercise their greatest self-control and behave "in advance of development" (p. 129). Vygotsky contended that "play creates a zone of proximal development" (p. 102) that also is a context for instruction that is oriented toward the future development of children.

If a major benefit of play for Vygotsky was the creation of a precursor of development, the major benefit of play for others was its creative, "combinatorial" (Bruner, Jolly, & Sylva, 1976, p. 153; Sutton-Smith, 1979, p. 315), and "generative" aspect (Bruner & Sherwood, 1976, p. 277). For Piaget, it would be the ongoing consolidation by children of their experiences, a process that leads toward construction of internal representations of the world, and a transition between egocentric thought and the development of reciprocity. Vygotsky (1976) saw play as a bridge ("pivot") that joins objects and actions with their representation in thought. Until children can separate the thought from the object or action, they must have something to act as a "pivot" in the form of a meaningful substitute, for example, "a stick denoting a horse" (p. 546).

It is interesting to consider how the process of making connections and substitutions occurs. Piaget (1962, 1976) suggested the dynamic of "cognitive conflict" similar to the concept of "cognitive dissonance" (Festinger, 1957). There is an element of novelty or surprise caused by the discrepancy between what one expects and what one finds, a contrast that stimulates fresh perceptions. The contrast and movement between familiar and strange stimulate perception; cognitive conflict represents one of the powerful conditions for learning that teachers can use.

Wish-Fulfillment and Mastery. Investigators have agreed that children use play to represent wish-fulfillment. Vygotsky (1976) suggested that

play reflects "generalized affects" rather than "isolated wishes" and that the "union of affect and perception" is characteristic of early childhood (pp. 540, 545). There is also general agreement that play helps children to feel in control and to experience a sense of mastery. Thus children come to understand the limits of their own power to control and predict the environment (Corsaro, 1990). Recent researchers in the development of children's "theory of mind" also have pointed to the significance of learning about predictability and control in the development of awareness of one's own thoughts as well as those of others, and noted the isomorphism between children's developing theory of mind and pretend play (Astington, 1993; Bartsch & Wellman, 1995; Garvey, 1993; Leslie, 1995).

Other commentators have seen play as a way in which children attempt to cope with their environment and find refuge (Gaynard, 1998), as well as a way to "reconcile" themselves to varied levels of success and influence (Opie & Opie, 1976). Children also control the intensity of play activity, as in "play fighting" (Aldis, 1975, p. 180). These views parallel the idea that children have a need to feel competent and capable of influencing their world (White, 1959).

Cultural Perspectives

The cultural viewpoints emphasize the contextual and *relative* aspects of play. Some investigators have contended that what may be play in one time and place may be ritual or religious, frivolous, or technical behavior elsewhere (Roopnarine, Johnson, & Hooper, 1994; Slaughter & Dombrowski, 1989). The cultural context also determines who may, or is likely to, engage in various kinds of play (Geertz, 1976; Whiting, Edwards, et al., 1988).

Play as a Categorization Frame. Some commentators have identified the concept of a play frame, background, or context. Our culture teaches us what to expect and how to categorize reality and pretend play (Bateson, 1976, 1979). In this way, play is progress in the "evolution of communication" and "metacommunication" (Bateson, 1976, pp. 121, 125). Bateson suggested that children demonstrate by their behavior that they can categorize play and not-play as they enter into and step outside the framework of play situations.

Studies of North African immigrant families in Israel found that parents taught their preschool children to categorize objects, kinship structures, and myths in unique ways (Janiv, 1976) that appeared to influence their play (Smilansky, 1968). In a longitudinal study in the United States,

Heath (1983) found that North Carolina urban middle-class Black and White children arrived at school with similar backgrounds, whereas the play and language use of rural working-class Black and White children differed from one another and from the middle-class children. The rural Black children brought to school strengths such as creative narratives, rich metaphors, humor, and fluid alternative uses of time and space. Teachers typically did not appreciate these strengths until the intermediate grades, by which time many children had become alienated and discouraged. The rural working-class White children tended to receive approval at home for single "correct" behaviors and the use of playthings in a single correct way. This limited approach served them in the school's primary grades but did not serve them as they encountered the need to make connections in the intermediate grades. Understanding children's category systems and the emphases of their early play experiences suggests the need to appreciate, rather than rank, differences.

The metacommunication that takes place in social play makes it possible for children to pretend together as they accept or reject each other's play premises, plans, and suggestions. Still another way to consider the fruitful notion of metacommunication in play is to consider that representation takes place every time children play with objects or events as "pivots" that bridge the gap between real and make-believe, or when they collaborate with others to "map" a play territory together. In this respect, play seemed to lead development (Leslie, 1995; Nelson et al., 1986). This is evident when the surface structures of children's play reveal their deeper propositional structures (Garvey, 1979; Johnson-Laird, 1995). Some researchers would concur, finding that 2-year-olds appear to understand, cooperate in, and contribute to joint pretend play earlier, and to engage in play with longer themes, when at home with older siblings (Farver & Wimbarti, 1995).

Play Contexts. Situational context makes a difference in children's play competence. Familiar and private settings appear to facilitate more creative and competent play (Aureli & Coecchia, 1996; J. Dunn, 1988; Howes, Droege, & Matheson, 1994; Ramsey & Lasquade, 1996). In a "strange situation, the range and diversity of play became considerably restricted and the tempo was reduced. Nothing happened to the structural variables" (Fein, 1985, p. 26).

These findings suggest that we might expect children to behave in *relation* to contexts and constraints. The physical and verbal aspects of sociodramatic play offer opportunities to observe children's "theory of mind" through their capacity to represent the real as well as the imagi-

nary, the real as imagined, and to "represent mental representations" (Lillard, 1993, p. 349).

TRANSFORMATIONAL DYNAMICS OF PLAY

Looking at play with a psychological as well as a cultural emphasis suggests that children *integrate* both the shared symbols of social players and the personal, representational aspects of play, while interacting within cultural and situational contexts. The content of children's sociodramatic play, therefore, is intrinsically multicultural in nature.

Several theoretical perspectives address the issues of how children's sociodramatic pretend play functions. There is some isomorphism among script theory, narrative structures, theory of mind, and complexity theory that can help us to appreciate the nonlinearity in representational social play.

Script Theory

Script theory takes the position that children develop sociodramatic play content out of the event knowledge that they acquire in daily life within their distinct cultural contexts (Bretherton, 1984; Mandler, 1992; Schank & Abelson, 1977). In this sense, scripts predispose perception in play and in understanding narratives (Bower, Black, & Turner, 1994). Event knowledge might include such routines as food acquisition, preparation, and consumption; relations between adults and children in culturally defined situations; and experiences and responsibilities for participating in family or community events.

Young children amass experiences that they then play out together within a combined process of shared predictability and collaborative novelty in a temporal sequence (e.g., events at a health clinic or food-gathering event) and within particular, culturally defined spaces (e.g., playing "farming" alongside a field in which mothers engage in farming [Whiting & Edwards et al., 1988], making faces behind the teacher's back in a classroom [Corsaro, 1990], or engaging in enriched play within home spaces [Squibb & King, 1996]). Such play scripts serve as evidence of the recursive relation between the shared cultural understandings of young children and their capacity to interactively plan, share, enact, elaborate, and further develop thematic content.

Script theory investigators propose that shared-event schemata serve as figurative, sequential frameworks (Bretherton, 1984). Other researchers have observed that a story narrative "grammar" and parallel problem-

solving capacity undergird children's pretend play (Ariel, 1992; Eckler & Weininger, 1989; Harris & Kavanaugh, 1993).

Script theory embodies a kind of syntactic structure and context for sociodramatic play. Scripts contain a finite set of figurative structures that can generate an infinite set of combinations, a grammar for play. While children understand the signals of play such as voice change, posture, gestures, or facial expression, they seem to follow certain organizational rules that are more or less complex. Their play explicitly represents their implicit understanding of the "script."

Integration of Social, Cognitive, and Affective

Within the play context, there is an interaction of affective, social, and cognitive aspects of play that change in relation to the communication content or text. Piaget (1965) made the point that when children build rules together as they play, they become more independent and increase their ability to see points of view other than their own, the process of *decentering* from oneself and one's immediate environment. We might see the ongoing social feedback in sociodramatic play as a kind of coaching system that helps children decenter. For example, a study of the natural play of preschoolers found that they ask for feedback from one another by various conventional statements, such as "OK?" "See?" "Right?" and "Don't we?" as they seek confirmation, information, compliance, argument, and attention (Chafel, 1984). As they play, they are able to move outside the play frame for brief negotiations about how to keep the play going and then maintain pretense during the play. They proceed "with the least possible acknowledgment of the playframe" (Giffin, 1974, p. 88). As they do so, their play events manifest a greater number of more expansive and extended scripts (Nelson & Seidman, 1984). Thus, the isomorphic imagery shared within the social/cultural context becomes part of the child's individual/personal perspective. Discussion of these dynamics follows.

Complexity Theory and the Power of Oscillating Contrasts

The negotiations of social play in particular appear to involve an oscillating process between what you expect in somebody else's behavior and what you find. This oscillation stimulates the decentration that characterizes development in cognition, socialization, and play. Contrasts, cognitive dissonance, the imbalance in transitional experiences, negotiations, pivots, and scaffolding are among the dynamic processes that characterize sociodramatic play. These processes are transformational in nature and

function as if they were "phase transitions" between different states of experience (Robertson & Combs, 1995; Waldrop, 1992). As phase transitions, these processes reflect an *oscillating balance* between freedom and control, one state and another, reality and make-believe, a kind of dynamic fulcrum that fluctutates between the metacommunication and representation that take place between emplotment and enactment. The study of play, therefore, is the study of relational rather than skeletal phenomena; it is a nonlinear, dynamic system. Play, cultural systems, narrative systems, and theory of mind systems represent nonlinear dynamics.

As such, nonlinear naturalistic settings—however inconvenient to a researcher's schedule—offer considerable promise as locations for research. The most fruitful questions to pursue within this framework would include those that might shed light on how young children's phase transitions function. It is intriguing to witness the functioning of these oscillating fulcrums. Investigation of children's play might illuminate references to script theory's dynamic processes, such as "image-schemas" (Mandler, 1992), "flags" (Harris & Kavanaugh, 1993), manipulable "multiple mental models" (Johnson-Laird, 1995; Perner, 1991), "decouplers" (Leslie, 1995), "desire-belief psychology" (Bartsch & Wellman, 1995; Repacholi & Gopnik, 1997), "cognitive templates" (Whyte & Owens, 1989), "affective representational templates" (Fein, 1985), "perceptual models" (Fromberg, 1995; McLuhan, 1963), "cognitive seeds" (Lucariello & Rifkin, 1986), or "ludic infrastructures" (Sutton-Smith, 1971).

Theory of Mind

It is apparent that sociodramatic play is a form in which implicit meaning may be evident in explicit forms. Researchers who pursue a study of "theory of mind" also have noticed that pretend play looks as if young players understand that they are playing; that other players have thoughts, feelings, and intentions; and that it is possible to interpret and predict others' behaviors. Studies vary in their queries about if/then, as-if/if-then, and sometimes convoluted verbal formats to try to understand what young children understand about others' desires, beliefs, false beliefs, and deception. They also disagree about the age (between 2 and 4 years) of children's explicit self-awareness of themselves as players and thinkers, and their awareness of others as conscious thinkers. In sum, the authors of studies and their reviewers disagree about theoretical, developmental, and methodological issues.

The value of these studies, neverthless, lies in their quest for a clearer understanding of the dynamics of young children's development of meanings; such an understanding promises to offer insights into the processes of pretend play as well as cognitive development. Perhaps it will be pos-

sible for early childhood teacher-researchers to become play astronomers who might glimpse the "oscillating fulcrum" in sociodramatic play activities.

THE RELATIONSHIP OF PLAY AND DEVELOPMENT

Depending on one's theoretical position, one sees play as extending cognitive, literacy, and social learning, or as reinforcing what children already have learned. Children extend their imagination and improve associative fluency, or they lack the capacity for imagining what is not or has not been present. If one agrees that intervention in play can improve children's learning and imagination, then one would create a different environment for children than if one disagrees.

Researchers also have wondered whether play, or "improved" play, could change the course of development. Therefore they have engaged in studies that attempt to find out if modeling, or otherwise stimulating children to be more playful, could influence social competence, creativity, cognitive development, and literacy development. Although children's sociodramatic play simultaneously involves these dimensions in integrated ways, the sections that follow discuss these attempts by following along the more or less separate strands of research pathways. Therefore, as we look at the sequence of play development, it makes sense to expect trends with variations rather than fixed results.

Social Development

There is consensus that sociodramatic play influences social competence. In general, social and moral development take place as young children interact with others. The social negotiations of pretend play are a particularly potent and influential realm of experience. Researchers have found that "social behavior was more mature [and reciprocal] in pretend play than in nonpretend activities" (Connolly, Doyle, & Reznick, 1988, pp. 311–312). Others concurred (Barnes & Vangelisti, 1995; de Lorimer, Doyle, & Tessier, 1995), finding that children maintained stability and consistency through sharing meanings (Meckley, 1994).

Some studies supported the notion that toddlers play for a longer time and with greater complexity when their parents play with them, model play behaviors, and verbally appreciate children's play (Haight & Miller, 1992; Landry, Garner, Swank, & Baldwin, 1996; Youngblade & Dunn, 1995). An adult presence with toddlers from varied backgrounds (Eckerman & Didow, 1989) and preschoolers from low-income families stimulated more complex play and language (Smilansky, 1968). Other

studies found that young children's play and language are more advanced with older children or older siblings than with peers, regardless of socioeconomic or national background (Brownell, 1990; Farver & Wimbarti, 1995; Howes, with Unger & Matheson, 1992). Pellegrini (1984a) found otherwise—that the presence of other preschoolers provided more opportunity for cognitive conflicts—and wondered whether his middle-class children were less likely than the low-income population to express disagreement with an adult.

Fein (1985) and Reynolds and Jones (1997) identified and studied "master players," defined as children who engage in extended social pretend play, characterized by fluidity, flexibility, risk taking, and affective relationships. More competent and more cooperative, less argumentative players were also the object of peer acceptance (Pellegrini, 1988; Trawick-Smith, 1994) and positive teacher assessment of sociability and school adjustment (Ladd & Price, 1987). More secure children also spent more time in pretend play, which might have contributed to their autonomy as organizers and planners (Fagot, 1997), particularly when sensitive teachers were nearby (Howes, 1997). A related finding was that children who received more child-care changes, often associated with more stressed families, manifested less competent play (Howes & Stewart, 1987). If they might meet, in dialogue, the more psychological or more sociocultural investigators cited above might all agree that there is a significant interaction between the child's developmental capacity and the play's social context.

Children engage in pretend play at about 18 months of age, by representing an as-if model of reality, a phase that precedes coordinated social pretend play in the third year (Perner, 1991). Other researchers reported a progression in children's play from solitary and beginning joint play (2-year-olds), to more relatedness and talk (2½-year-olds), and then to reciprocal role playing (3-year-olds) (Miller & Garvey, 1984; see also Parten, 1971). Language development through scaffolding (Eckerman & Didow, 1989) paralleled and had a recursive relationship with decontextualized play and social cognition in these studies (Shore, 1990).

It is possible, however, that more sophisticated thinking may require solitary play (Eddowes, 1991; Rubin & Howe, 1986). For example, there was consensus among researchers that although children become increasingly competent and complex in their sociodramatic play through 5 years of age, such play declines among 6-year-olds, perhaps because of schooling and the internalization of imagination (Cole & LaVoie, 1985; Voss, 1987). Between 5 and 7 years of age, the nature of children's concern shifted from actions within the pretense to purposes of the actions (Forbes & Yablick, 1984).

Imagination

There is controversy surrounding the body of research that deals with the influence of play on children's creativity. Feitelson and Ross (1973) hypothesized that thematic play influences children's creativity and that it does not develop automatically but through modeling. They found more combinatorial play on post-tests after kindergarten children received tutoring and encouragement in the use of combinatorial play and unstructured props. Related studies supported their findings (Dansky, 1986; Freyberg, 1973). Divergent players seemed to be more willing to try alternatives, when compared with children who had played with convergent materials that suggested a narrower range of options or had observed play with either type of material. Convergent materials seemed to constrain the activities of the children. Researchers have cautioned that the effects were short-term and recommended longitudinal study.

Fein (1985) saw "pretense as an orientation in which the immediate environment is deliberately treated in a divergent manner" (p. 21). Eisner (1990) pointed to the shared representational power and significance of art and play. Pellegrini (1992) found a relationship between flexible rough-and-tumble players and their social problem-solving flexibility. These views point to the importance of studying play as related to associative fluency and creativity.

Observations of young children in their natural group settings suggested that pairs or trios of children are most effective in stimulating each other's imagination (Bruner, 1980) and that children working within the group itself might have helped to reduce aggressive behavior (Farver, 1996). Thus such studies support the paradigm that children who are stimulated to play more imaginatively show improved ability to make new connections.

Critics have challenged the validity of methods used in the body of associative fluency and play research, raising questions of unconscious experimenter bias or whether play had occurred (Smith & Whitney, 1987). Their challenges have extended an ongoing dialogue within this paradigm (Dansky, 1985; L. Dunn & Herwig, 1992). The volleying of studies is likely to continue.

Cognitive Development

There is a general consensus, with some methodological reservations, that the integration of cognitive and socioemotional development during play supports cognitive development.

Sociocultural Contexts. Smilansky's position, like that of others (Rogoff, 1990; Scales, Almy, Nicolopoulou, & Ervin-Tripp, 1991), leans toward the notion that the contents of sociodramatic play and cognitive development depend on cultural and contextual factors. Thus different environmental experiences, available resources, and historical and cultural expectations affect children's perceptions, practices, preferences, and achievements in distinct ways.

Smilansky (1968) suggested that young children need adult intervention in their play. She observed that less advanced sociodramatic play co-varied with academic failure and a disadvantaged background. When teachers intervened to stimulate the sociodramatic play of low-income preschool children in their classrooms, children became more flexible planners, used language more elaborately and expansively, sustained play for longer periods, and improved their use of pretense. Teachers attempted to vary the intervention on the basis of the different skills with which individual children came to school.

Contrary findings are reported by Eifermann (1971). Eifermann, based on a study of 14,000 elementary school children, found that a similar population of 6- to 8-year-olds displayed more, not less, social symbolic play than the low-income children about whom Smilansky wrote, and proposed that low-income children may develop symbolic play at a later age.

Levenstein (1992), however, hypothesized that play skills need to be taught and that mothers of children from low-income families could learn to assist their toddlers in improving play skills. She posited that children's play is related to problem solving, academic skills, classroom attitudes, and IQ; she found and replicated significant increases in the children's IQ's.

Believing that opportunities to play could influence cognitive development, Golomb (1979) and Golomb, Gowing, and Friedman (1982) created a strategy to stimulate the conservation of quantity among preschoolers who were pretested and post-tested in a clinical Piagetian manner. They concluded that pretend play facilitated the acquisition of conservation of quantity. They suggested that their subjects used intuitive and unreflective reversibility, which they proposed is a spontaneous precursor to genuine reversibility of operational thought.

A related study concerning 3-year-olds' early moral development within the family included story stems (problem narratives) with doll play and props in both laboratory and home settings (Buchsbaum & Emde, 1990). The researchers found the children, at younger ages than Piagetian researchers might predict, capable of offering coherent and "alternative prosocial choices in a moral dilemma . . . when the task is altered so as to

be accessible to younger children both in terms of its affective significance and the mode of required response" (p. 150). They related their research to script theory as a representational form that derives its content and power from contextual factors.

Resources as Contexts. Toddlers who used objects and toys alone and with others increasingly developed the capacity to pretend substitutions with less prototypical objects or with more than one symbolic transformation in ways that were more diverse and complex (Fein, 1975). Others confirmed these findings (Copple, Cocking, & Matthews, 1984).

After studying the symbolic play of toddlers, one team of researchers concluded that play can be enhanced or depressed by contextual variation when adults model play behavior at home or in a study setting (Bretherton, O'Connell, Shore, & Bates, 1984). Another investigator concluded, after modeling, that the social pretend play of toddlers both reflects and contributes to decentration; Fenson (1984) proposed that children progress in turn through the processes of decentering, decontextualization, and integration. Development, from this perspective, proceeds from a focus on the self toward active, other-directed acts. The indicators of decontextualization are symbolic transformation, substitutions, and inventive acts, as children become less dependent on prototypical representation. An increasing ability to combine individual action sequences into multischeme combinations characterizes integration, with an increased predominance of speech with age. There was no gender effect on language, but Fenson found more integrative play among girls; another researcher found that girls used more explanations and boys more self-referential statements (B. Black, 1992). There also was confirmation that children who use low-specificity toys engage in more interactive play and maintain a shared social script more continuously than children who use high-specificity props (McGhee, Etheridge, & Berg, 1984; McLoyd, 1983)

Personal Developmental Contexts. The study of individual differences provides another contribution to understanding the dynamics of play. Researchers have identified "patterners" (i.e., object-oriented) and "dramatists" (i.e., symbol-oriented) (Gardner, 1982); they and others (Taylor & Carlson, 1997) have interpreted each style to be a reflection of underlying "mental structures" and personality, a valid route toward general symbolic competence. These styles appear to parallel Adler's (1923) introvert–extrovert categories.

J. L. Singer (1973) reported findings concerning a related difference—individuals who displayed a profile of high or low fantasy in their play. Others supported his findings (Connolly & Doyle, 1984; Moran,

Sawyers, Fu, & Milgram, 1984). J. L. Singer and D. Singer (1979) found that high-imagination children reported greater contact with parents who modeled or provided specific opportunities for fantasy play. High-imagination children manifested a capacity to wait quietly for a longer period of time, reporting fantasy play as they did so. They also scored higher in imaginative storytelling, made more analogic kinds of statements, and were more persevering than low-fantasy children. Schwartzman (1984) cautioned us to be careful about labeling children as "non-imaginative, noncreative, nonconceptual" (p. 58) rather than stylistically different.

Gender. Teacher awareness of gender patterns in choices of themes (MacNaughton, 1995) and play centers (e.g., older preschoolers choosing same-sex children for play [Urberg & Kaplan, 1989]) is important for educational equity. Moreover, access to the traditionally male domain of blocks, with which young children can develop their visual-spatial skills, was found to be related significantly to mathematical learning (Maccoby & Jacklin, 1974).

During play, researchers have found that girls asserted themselves by balancing their own perspectives with those of others (Sheldon, 1992) and engaged in longer episodes of shared pretense, suggesting that they might value the mutual interaction while boys' goals were to gain "acceptance of their own suggestions" (G. Black, 1989, p. 390). In a related finding, boys initiated more play topics to which more girls responded, and girls engaged in "more sophisticated, constructive play [when playing with blocks] with boys" (Pellegrini & Perlmutter, 1989, p. 295). In a similar vein, boys' play was dramatically different from the predominantly housekeeping play of girls, even when thematic content varied (Dodge & Frost, 1986). Researchers have identified boys' play as more fluent and girls' play as more flexible, original, and elaborative (Gonen, Uzmen, Akcin, & Ozdemir, 1993).

Other investigators have found that boys engaged in more active play, rough-and-tumble play, games with rules, and games involving spatial relations (Paley, 1984; Pellegrini, 1987). Within rough-and-tumble play, the children may perceive themselves to be collaborative rather than confrontational, regardless of adult conclusions.

Literacy Development

There is a distinctive body of applied research concerning classroom provision of alternative sociodramatic play themes (e.g., bank, office, post office, restaurant, veterinary office, hospital, pet shop) that include liter-

acy materials as play props and their influence on children's increased use of language literacy skills (Christie, 1991; Morrow, 1997; O'Brien & Bi, 1995) and emergent numeracy (Cook, 1996). Cazden (1971) reported that, while the quantity of oral language was plentiful during classroom housekeeping corner play, the syntax and content were repetitious rather than elaborative and expansive. Other researchers have found that children use more varied and extensive language when teachers provide materials for varied themes (Dodge & Frost, 1986; Levy, Schaefer, & Phelps, 1986). These studies documented a powerfully recursive relationship between play and literacy development within the classroom context of thematic learning centers. In effect, play provides a collaborative medium in which children may practice literacy skills, mutually develop scripts based on event knowledge, provide mutual scaffolding, and further expand and extend literacy use. Studies tend to support the notion that play as the locus of children's power can prevail when the teacher models and extends rather than directs.

In addition to looking at how language and play coincide developmentally, researchers have suggested that children enjoy playing with language because it makes them feel in control (Freud, 1916/1960; Kirschenblatt-Gimblett, 1979). They have observed play such as sounds or words repeated for their own sake as well as in riddles, jokes, and metaphors. Thus, just as pretend play may suggest "the hallmark of an emerging artistic and literary ability" (Bretherton, 1988, p. 211), playing with language may have poetic as well as metalinguistic functions.

There also are intervention studies concerning how play influences the recall of stories. Investigators found that children's story comprehension improved after training in thematic fantasy play. Interventions that facilitated the ability to retell stories included role playing, rather than adult-led discussion (Pellegrini & Galda, 1982); peer-directed play (Pellegrini, 1984b); engaging in imaginative play actions themselves, rather than through puppets (Marbach & Yawkey, 1980); repeated opportunities to play out stories in small groups (Williamson & Silvern, 1991); and an effective combination of fantasy, verbalization, and conflict (Pellegrini, 1985). The investigators implied that the metacommunication children used in order to maintain the play frame made it possible for the children to move between their own role and their peers' role interpretations, supporting Vygotsky's notion of play as leading development (Galda, Pellegrini, & Cox, 1989).

Throughout studies that considered the relation of young children's play and their literacy development, there flowed a strong current that carries the message: Social pretend play involves the development of scripts that evolve collaboratively. The negotiation processes provide a

scaffolding similar to that of an editor and author. These images suggest that young children's increasing oral language skills are the foundations upon which they build their skills as writers, learning how to communicate with an audience and what voices to use.

IMPLICATIONS FOR CURRICULUM DEVELOPMENT

The research on play indicates that it is an important part of the lives of young children. Play has lymphatic, in the sense of pervasive and interconnected, implications for their education. While there has been a scant body of research (Wing, 1995) directly dealing with the impact of teacher attitudes toward play, Torrance (1962) reported that teachers perceive creative children as more of a problem than garden-variety achievers. We expect that the spontaneous nature of play will be a burden to teachers with this attitude. Teachers need to be joyful and playful, open to accepting the unexpected connection or alternative with good humor.

Ways of Encouraging Play

Teachers can encourage play by modeling, planning with children, and playing with language.

Modeling. Teachers could model play behavior that stimulates development through challenge. This would mean attracting children to play by providing a variety of options with which they can feel comfortable and in which they perceive a chance for success, thereby creating an oscillating balance. Part of the teacher's task is to vary the level of structure of props and themes for different children in order to facilitate varied perspectives, meanings, motives, and enactments. The best options are those that children can actively structure and for which there may be more than one possible outcome. Thus the teacher would help children extend rather than merely replay and repeat experiences (Tizard, 1977).

Inasmuch as children come to school with different experiences, providing materials and opportunities will yield different outcomes. Therefore, teachers could actively bring children into play activities in varied ways, sometimes by taking roles, creating contrasts, or entering a play frame with an extendable model or dramatized suggestion.

Interage play as well as peer play helps children to learn as they see attainable models. In a sense, playmates are natural examples of new figures highlighted against familiar backgrounds. Therefore teachers

could try to help children who tend to be isolates to move into parallel and collaborative play with other children. For isolates as well as others, mixed-age play may assist the development of more complex and extended play forms.

Modeling also takes place when a teacher asks questions that suggest a variety of possible responses. Such questions and situations that suggest more than one way to proceed are likely to encourage an openness to various problem solutions. If there is only one material or method, children receive the message that independent thinking is unwelcome. An array of possibilities, however, might encourage play.

Planning with Children. Children need enough time to play out their themes. Paley (1984) found that some of her kindergarten children needed extended amounts of time to engage in sociodramatic play before they could focus on artwork at a table. There is evidence that 30 minutes provides a minimum amount of time within which young children might develop a sociodramatic play theme (Christie, Johnsen, & Peckover, 1988). Beyond minimal time, there is need for one or more long blocks of time during the school day.

Thematic learning centers with 4- to 8-week shifts in content focus are important provisions for children's play throughout the primary grades as well as in kindergartens and preschools. Children also need the time and opportunity to explore new materials and situations as well as to play. In order to strike a balance, teachers need to infuse novelty, variety, and fresh challenges. In order to foster continuity with children's meanings, teachers effectively pace the *contrasts* between the strange and the familiar, so that children are able to perceive a new figure when it is contrasted clearly against a known background. To the extent that children construct their learning in self-directed ways, they acquire increasingly realistic expectations about the future and a sense of confidence and control.

Some children need time to be alone in the unique fantasy world of classrooms. Therefore, teachers can organize space for privacy, as well as for participation with others, in order for children to create their own structures and pace.

In these ways, teachers can create classroom cultures that define and tolerate different levels and types of play; they can focus in a comfortable way on the game-playing process rather than on only the outcome. When teachers find children creating opportunities to play at unplanned times or in unexpected places, it is likely that the children need more time to play or might feel overwhelmed by adult expectations.

Playing with Language. In addition to modeling and planning with children for the use of materials, time, and space, teachers can encourage children to play with words through legitimizing peer interaction and providing child-controlled literacy materials.

Teachers can improve story comprehension with small groups by playfully questioning and.asking children to interpret and imagine what might happen in stories, tell the stories, and then role play. Practice improves this process: A teacher who plays a larger early role as an exemplar can later reduce her or his participation. Paley (1984) reported harnessing rough-and-tumble and superhero play with which she felt uncomfortable by asking children to "save" their ideas for use in a collaborative language experience setting.

Power of Play

This is a time when extreme views are pressing on early childhood education. There is a push in one direction toward limiting the function of public schools to the three Rs and stating facts, crisply advanced. There is advocacy from the opposite direction for a folklorist tradition in early childhood education, vaguely propounded.

We need a more valid basis for developing curriculum than decision making that is based solely on what children can learn, or what certain factions want them to learn, or what tradition has dictated. We need to consider what is worth learning.

There is abundant evidence, accruing at meteoric rates, indicating the power of play as a developmental lymphatic system. In the course of early childhood development, play seems to be a cauldron in which, at different times and in different contexts, various proportions of cultural, social, cognitive, linguistic, creative, aesthetic, and emotional ingredients blend.

We might playfully entertain the notion that play serves to merge the hypothetical functions of the right and left hemispheres of the brain. In this way, normal children manage to maintain a balance in their experience as human beings. The implications of current interest in imagery and metacognition can be considered as part of the concern for children to have "thinking skills."

Imagery processes interacting with metacognitive processes serve problem solving. *Imagery* is the creative aspect of experience and the capacity of human beings to make connections. For young children, it is an early form of symbolic representation in such activities as sociodramatic play and personal analogy. There has been conjecture that the right hemisphere of the brain, dealing with metaphoric and aesthetic ways of know-

ing the world, can be developed and strengthened by experiences that are rich in imagery. *Metacognition* is the development of self-awareness about one's own thinking. It takes place in a gradual process as we have experiences, get feedback from our environments, and experience cognitive dissonance. There has been conjecture that improved metacognition can strengthen and develop the functions of the brain's left hemisphere, dealing with logical ways of knowing the world. Working jointly, the processes of imagery and metacognition function in the service of problem solving.

To attempt to "teach" young children these integrative skills separate from direct, concrete experiences is akin to trying to learn to ride a bicycle with a stationary exercycle. To use linear workbooks for these nonlinear functions that develop naturally with healthy play is to be irrelevant if not downright abusive.

For young children, play is a way to strengthen worthwhile, meaningful learning and cooperation with others rather than merely acquiring facts alone. Play may well be the ultimate relativist integrator of development. As an ethical issue, the role of play as part of early education touches on many dimensions of development and can affect the sheer joy of living fully. The transformational potential of play in itself is a potent lever for making new connections in a rapidly changing world.

Thus, teachers of young children have an ethical responsibility to create situations that can help to improve the conditions of learning and life in schools. We need to intervene in indirect and playful ways to the extent of our own potential capacities for professionalism and playfulness.

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